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**HARRINGTON'S IN VERMONT
PHASE II ENVIRONMENTAL AUDIT
Richmond and Shelburne, Vermont**

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BANK OF VERMONT

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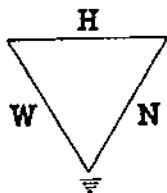
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September 23, 1991

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1.0 INTRODUCTION

Wagner, Heindel, and Noyes (WH&N) was retained by the Bank of Vermont in late July of 1991 to perform a Phase II Environmental Audit of both the Richmond and Shelburne Harrington's in Vermont facilities. The Richmond facility includes a food processing, packaging, storage, and transportation plant, while the Shelburne facility includes a retail shop and kitchen. A large portion of the Shelburne facility is leased to Woodbury's of Shelburne, who manufactures wooden bowls and other woodcraft products.

To gather land use information about each site, interviews were conducted with owners and employees of the facilities, with Patterson Fuels who provides fuel delivery services to both buildings, with fire chiefs, town clerks, and other persons familiar with the historical and current use of the properties. All buildings were examined for hazardous building materials, including asbestos, urea and formaldehyde foam insulation, and for improper storage of hazardous materials. Suspected asbestos-containing material was sampled and analyzed. A careful walk-over was conducted of the grounds around each facility to look for signs of hazardous materials releases, improper storage, or use of hazardous materials. Monitoring wells were installed adjacent to and around storage tanks, and sampled and analyzed for petroleum constituents. These wells were installed south of the Shelburne retail facility to investigate possible contaminant releases from the adjacent Ray's Citgo service station.

A field-portable photoionizable detector (PID; Microtip Model HL-200) was used during both the facilities and grounds inspections to screen for airborne volatile organic vapors and gases.

2.0 SITE LOCATIONS AND TOPOGRAPHY

2.1 SHELBURNE

The Shelburne Harrington's store is located on Route 7, just south of Shelburne Village, and directly across this highway from the Shelburne Museum. The topogra-

phy of the site is nearly flat, with a gentle grade sloping downhill toward the north. The site is abutted to the south by Ray's Citgo, an automotive repair and service facility with a small body shop; to the east by a residential development; and to the north by Cafe Shelburne, a restaurant, and by warehousing buildings of the Shelburne Museum. A site sketch is provided in Appendix 1, page 1.

2.2 RICHMOND

The Richmond food processing plant is located approximately ¼ mile southeast of the Richmond Village center on the southwest side of U.S. Route 2. The land on the site slopes moderately to steeply to the southwest across the entire parcel. The parcel is transected by a town road, Lemroy Court; residential homes to the north; and U.S. Route 2 to the east, with additional residential homes and a small veterinary hospital across the State highway. A site sketch is provided in Appendix 1, page 2.

3.0 LAND USE HISTORY

3.1 SHELBURNE

During a telephone interview with Mrs. Laurie Fisher, a resident of Shelburne since the early 1940s, we learned that the land surrounding Harrington's and Woodbury's of Shelburne was previously a dairy farm owned by the Tracys, and later a dairy farm owned by the Marcetts. The Marcett farm was in operation until 1958 or 1959. A diner was also in operation, owned by Walter Fenwick, and stood at the current site of Woodbury's of Shelburne. Mrs. Fisher indicated that no industries were active in the area until Woodbury's of Shelburne began operations in the early 1960s when it was known as Woodbury Woodenwares. Woodbury's of Shelburne has been owned by three to four individuals since it moved to the site. The woodworking shop is presently owned by Harrington's of Vermont, who lease the facility to the current operator, Mr. William Bilodeau.

Ray's Citgo service station has been located on the adjacent lot to the south of the subject parcel since approximately 1980 (telephone conversation with Dennis Boise, Champlain Oil Company, September 12, 1991). The service station provides fueling facilities to gasoline and diesel motor vehicles, repairs motor vehicles, and provides auto body repair services in a one-bay shop at the back of the service station. There

are three underground storage tanks at the site, including one 4,000-gallon gasoline tank installed in 1984, and two 5,000-gallon gasoline tanks installed in 1982. An above-ground 275-gallon diesel tank is used to fuel buses. (There are no underground diesel tanks.)

A line leak was suspected at Ray's Citgo in 1988 when a gasoline pump began to lose its prime. A leak in the suction line to the pump was confirmed and repaired soon after this problem was noticed; an estimate of only 20 to 25 gallons of fuel was lost (telephone conversation with Dennis Boise, September 12, 1991). No contaminated soil was removed after the suction line was fixed. Champlain Oil Company (COCO) was directed by the Underground Storage Tank Division of the Agency of Natural Resources to perform additional subsurface investigations to determine the extent of contamination caused by this line leak, but no further work has been performed by COCO. Later in this report, some evidence of subsurface petroleum contamination caused by this leak or other petroleum releases at Ray's Citgo is discussed.

Mr. Frank Cole, Fire Chief for the Shelburne Volunteer Fire Department, reported that a small fire occurred in the Woodbury shop in the dust collector (time of fire unknown; telephone conversation with Frank Cole, July 19, 1991). Mr. Cole also stated that the Fire Department responded to a fuel loss at Ray's Citgo sometime in the mid-1980s. A "few hundred gallons" were possibly lost when either a tank was overfilled or when a delivery truck filling hose popped off the top of the tank (Mr. Cole could not recall the specific cause of the fuel loss). Sandbags and Speedy Dry were used to help contain the release.

3.2 RICHMOND

Construction of the food processing plant at the Richmond site spans a number of decades. The original facility was housed in a former residential home, now located in the northeast corner of the plant. Food processing rooms, warehouses, shipping rooms, coolers, and smokehouses were added from the 1960s through the 1980s. During these expansions, three single-family homes were purchased. Besides the original home from which the operation began, a second home has been incorporated into the present food processing plant. Small underground fuel oil tanks which provided fuel storage services to the original single-family homes are still in use at the facility. Subsurface investigations beside these tanks were performed for this Phase II Environmental Assessment, and are further described later in the report.

Before construction of the single-family homes, the property was used as a dairy farm owned by the Roys. This land was farmed by two generations of Roys, and most recently by Mr. Leopold Roy, who discontinued farming in the area, probably in the early 1950s (telephone conversation with Edna Johnson, Richmond Town Clerk, September 12, 1991).

4.0 FACILITY INSPECTIONS

Extensive facility inspections of both the Richmond and Shelburne facilities were conducted to examine all structures for the presence of asbestos-form construction and thermal insulating materials, urea and formaldehyde foam insulation, and to check for the presence of volatile organic vapors in the environment. Samples of suspected asbestos-containing materials were collected for laboratory analysis under a polarized light microscope. Floor drains, cleanouts, and chemical storage areas were screened with a Photovac Microtip (10.6 eV ultra-violet lamp; calibrated to benzene equivalents with 100 ppm isobutylene).

4.1 SHELBURNE

The Harrington's Shelburne facility was constructed in two phases: cinder block construction of the original Woodbury Woodware's shop, and wood frame construction of the new Woodbury's retail shop and Harrington's retail shop and kitchen built in approximately 1985. The cinder block portion of the building is unfinished on the inside, and lends itself to ready inspection for asbestos-containing materials and formaldehyde insulation. No suspicious materials were observed in this portion of the building. Many attempts were made to interview the architect for this expansion by telephone, without success. An inventory of the Harrington's Shelburne building is provided in Appendix 2, pages 1 and 2.

The cinder block portion of the building is heated with No. 2 fuel oil stored in underground storage tanks (see Grounds Inspection, Section 5.1, for additional information). The newer retail spaces and kitchen are heated with roof-mounted HVAC systems.

A synthetic varnish, with the product name Flat Vinyl Thermolac, is used to finish the wooden bowls at Woodbury's of Shelburne. The varnish is air-dried in a drying booth, which exhausts the volatiles to the atmosphere, via a fan located on the south side of the building. Material Safety Data Sheets (MSDS) are provided for both the synthetic varnish and the catalyst used in the varnish (Appendix 3, pages 1 through 8). These sheets have been forwarded to the Air Pollution Control Division, along with daily use

volumes of the material (approximately one gallon per day) to determine whether any hazard limiting values are exceeded, and whether a treatment system is necessary for this air discharge. The Air Pollution Control Division's reply to this information will be forwarded to the Bank of Vermont and Harrington's as soon as it becomes available.

4.2 RICHMOND

Given the multi-phased history of improvements to the Richmond food processing plant, the facilities inspection required a more detailed analysis for asbestos-containing materials, urea or formaldehyde foam insulation, and volatile organic vapor and gas emissions. Most of the square footage of the building is constructed of cinder block and is attached to original wood frame single-family homes. An extensive inventory was performed of construction materials and contents of the complete processing plant (Appendix 2, pages 3 through 17), and photoionizable detector (PID) levels of volatile organic compounds were collected at all floor drains and cleanouts observed throughout the facility.

A total of eight bulk samples were analyzed for asbestos, using polarized light microscopy (PLM) and dispersion staining techniques. Samples were collected from coolers, cooler wall panels, boiler room filter cloths, bakery ceiling panels, smokehouse chill insulation, smokehouse wall panels, smokehouse wall surfaces, and smokehouse foam ceiling panels. An approximately two-foot by three-foot friable cloth-like material, attached to a plywood partition in the small boiler room located in the corner of the bakery prep area, was found to contain 80-percent chrysotile asbestos. Asbestos was not detected in any other samples (Asbestos Laboratory Reports, Appendix 2, pages 15 through 17).

Floor drains are located in nearly every non-office room of the food processing plant. All drains are connected to the Richmond Sewage Treatment Plant. All drains were screened with the Microtip. Elevated levels of volatile organic compounds were measured in some floor drains; the most likely source is the strong cleaning solvents in use at the plant which also have high PID signatures. Two cleaning products are used regularly at the facility, especially for cleaning of smokehouse walls, floors, and racks used to hold the food that is being smoked. Both are products manufactured by Texo Corporation, and Materials Safety Data Sheets are provided in Appendix 3, pages 9 through 53. Texo product Textstrip 60 is used for cleaning of smokehouse

carts. According to the MSDS, this product contains potassium hydroxide (caustic potash), and propylene glycol. A Microtip reading of 135 was recorded at the bung hole of a drum of this product. Texo LP 1260 is used as a general cleaning product. This product contains sodium hypochlorite, and did not appear to register on the Microtip¹.

Elevated PID levels were noted in the floor drains in two of the smokehouses and in cooler No. 6 and cooler No. 19. These elevated levels are likely associated with the use of the Texstrip 60 product. This is partially confirmed by the notable odor of the product in the floor drain in cooler No. 19, associated with a relatively high PID level of approximately 35. We learned that this drain has not been flushed with water for over a year. Although the elevated levels in these drains are likely caused by the cleaning product, positive association of the organic cleaning compounds with the field-measured values could only be accomplished by laboratory testing.

Elevated PID levels were also noted in the boiler water blowdown drain, with an average level of 8.0. A follow-up sample of this drain is recommended, since no Texstrip 60 product would necessarily be expected in this drain. The boiler water is treated with sodium hydroxide, and a rock salt ion-exchange unit.

All employees who have the potential of coming in contact with the Texo products have received safety training from Texo Corporation in the safe handling and use of these hazardous materials. The Medical Center Hospital of Vermont has also been notified of the active use of these products at Harrington's, Richmond, to aid in response in case of an emergency at the plant. No spills or obvious misuse of this or any other hazardous products were observed at the facility.

Strong sanitizing agents, including Septasan NR and Roccal, are also used at the plant (MSDS, Appendix 3, pages 45 through 54). Septasan is a general, every-day disinfectant which is sprayed in a mist on tables and knives in the food-processing areas. Roccal is used specifically to remove food particles and other organic matter from epoxy floors just prior to application of epoxy paints.

Mr. Leo LaBlanch of New England Air Systems maintains the numerous compressors used for the coolers and freezers at the facility. He indicated (telephone conversation

¹Testing of this product was performed just after testing for the Texstrip 60 product, and the instrument appeared to be still recovering from the high PID levels of the Texstrip 60 product.

September 12, 1991) that no refrigerants are used in any of the compressors that are liquids at room-temperature. Only Freon 12, Freon 22, and Freon 502 are utilized for these compressors.

The Richmond plant is heated using propane and No. 2 fuel oil. Fuel oil is stored in two underground storage tanks (550 gallons each), and are serviced and filled by Patterson Fuels. Subsurface investigations next to these tanks are detailed in Section 5.2.

5.0 GROUNDS INSPECTIONS

5.1 SHELBURNE

A reconnaissance of the grounds surrounding the Harrington's Shelburne facility was performed on July 15, 1991. This field reconnaissance was supplemented by the use of a PID to check for the presence of volatile organic vapors in storm water catch basins and discharges to culverts. No stressed vegetation or discolored soils were noted on the site. During the site walk-over, the neighboring Ray's Citgo facility was identified as a potential source of subsurface contamination, and the fill pipes for two underground 3,000-gallon (each) No. 2 fuel oil tanks were found on the north side of the Woodbury's of Shelburne portion of the building. We learned from Bruce Bilodeau, Operator of Woodbury's of Shelburne, that only the eastern of the pair of tanks is used for fuel storage, the western tank having been out of service for many years. Fuel deliveries are performed by Patterson Fuels. The tank is stick-tested for fuel volume, and for the presence of water before each delivery (telecom with Moe Harvey, President, Patterson Fuels). Patterson Fuels was not aware of any tank overfills in association with this facility.

After discussions with personnel from the Bank of Vermont, we were instructed to install groundwater monitor wells between Ray's Citgo and Harrington's of Shelburne, to obtain subsurface groundwater samples to evaluate for petroleum contaminants that may have been released from Ray's Citgo. We were also instructed to install monitor wells adjacent to the pair of underground storage tanks to determine whether any fuel had been released from these tanks.

During the week of July 29, 1991, a total of five monitor wells were installed at the Shelburne Harrington's site. Locations of each well are provided on a site map in Appendix 1, page 1. Three wells were installed between Ray's Citgo and Harrington's, and two wells adjacent to the underground storage tanks. These wells

were installed by Green Mountain Boring under the direction of Wagner, Heindel, and Noyes, Inc. Soils logs and driller's logs are provided in Appendix 4, page 1 through 15. PID levels are provided with the soil boring logs. In general, fine-grained soils, ranging from fine sands to clays (becoming finer-grained with depth) were encountered in each boring. Flush-threaded two-inch-diameter PVC wells were installed in each boring, and silica sand packs were used as backfill material around the screened interval of each well. Bentonite seals were provided above the sand packs to minimize the intrusion of surface water down the sides of the wells. The wells adjacent to the underground storage tanks were equipped with locked well guards.

Flowing sands were encountered during installation of the monitoring wells, and tap water, obtained from a sill cock on the Harrington's building, was used for installation of the wells. A sample of the tap water was obtained and analyzed to check for introduction of any volatile organic compounds from this water. After the wells were permitted to equilibrate for approximately a week, they were developed and purged, then sampled using a teflon bailer.

A broad-spectrum analysis for purgeable hydrocarbons (EPA Method 624) was performed on the three monitoring wells between Harrington's and Ray's Citgo, and for the out-of-service underground storage tank. This analytical method was chosen to screen for not only petroleum hydrocarbons, but also chlorinated hydrocarbons that may be associated with the auto body repair shop at Ray's Citgo, and to check for the possible release of chlorinated hydrocarbon solvents that may have been poured into the out-of-service underground storage tank. A sample of about 2 feet of product found in the abandoned tank was also obtained and analyzed for EPA Method 624 constituents. The product depth was about 1 to 2 feet in this tank.

Laboratory results of the abandoned tank product revealed only petroleum aromatic compounds, including ethyl benzene, toluene, and xylenes (all laboratory reports are provided in Appendix 5, pages 1 through 12). These results indicate that the tank has been used exclusively for petroleum products, and the lack of benzene in the sample suggests that non-gasoline fuels have been stored in this tank. The monitoring well adjacent to the active fuel oil tank (MW-SH-4) revealed no detectable volatile hydrocarbons. Similarly, no detectable hydrocarbons were observed in the monitor well adjacent to the abandoned tank (MW-SH-5).

In the two wells closest to Ray's Citgo (MW-SH-2 and MW-SH-3), detectable levels of methyl tert butyl ether (MTBE) were observed. Chloroform was noted in MW-SH-1 and MW-SH-2, but could be accounted for by its presence in the tap water used to

install the sand packs for all the wells. MTBE is an anti-knock ingredient introduced into gasolines since 1985 during the phase-out of lead. This ether is highly mobile in the subsurface environment, and is commonly the first gasoline constituent observed downgradient of a gasoline release. The distribution of MTBE in the three monitoring wells suggests increasing levels of the compound in a southerly direction, and strongly suggests that the origin of the material is from Ray's Citgo. However, additional wells would have to be installed further upgradient from MW-SH-2 and MW-SH-3 to unequivocally determine the source of the contaminant.

Chloroform, a trihalomethane, is a derivative of the chlorination process used by Champlain Water District, who supply municipal water to the Town of Shelburne.

5.2 RICHMOND

On August 1, 1991, a walk-over was performed of the Richmond facility. Results are summarized in a site map in Appendix 1, page 2. During the walk-over, the Microtip was used to obtain PID levels of catch basins, culverts, drain pipes, and an exhaust fan from the compressor room on the west side of the building. Refuse was observed on the west side of Lemroy Court, that had been dumped down a steep embankment. Materials noted in this refuse included grass clippings, wood, pipes, leaf litter, beer cans, and door and window screens. The PID level of this refuse was 0.9 ppm.

Killed weeds were observed in a gravel parking lot located just west of the compressor room. The PID levels above this gravel pad were slightly elevated (1.3), and may have been associated with the use of a pesticide at this location. The only other outdoor structure that was tested for PIDs and was considered to be above natural background levels was a gas control system associated with the propane tanks located on the north side of the processing plant. A PID level of 5.9 was observed in this gas control system.

A 4-inch diameter PVC pipe terminus was noted beside Lemroy Court, and approximately 150 feet southwest of the food processing plant. This pipe appears to be the terminus of a perimeter drain for the processing facility. The PID levels within the pipe registered 0.4, and imply that no widespread contamination has occurred around the base of the processing plant that is served by this perimeter drain.

Wells installed adjacent to two 550-gallon No. 2 fuel oil tanks serving portions of the plant revealed no detectable petroleum hydrocarbons in soil (MW-RH-1) or

groundwater (MW-RH-2).² Patterson Fuels delivers fuel oil to the tanks, and is not aware of any known leaks or overfill incidents at the facility. The tanks are checked for fuel volume and for water before each delivery (telecomm. with Moe Harvey, President, Patterson Fuels). One above-ground 275-gallon diesel tank at a loading dock is also used at the facility to fuel refrigerated truck compressors.

6.0 CONCLUSIONS

Based on our visual inspection, field testing with a portable ionizing detector, and sampling and laboratory analysis of groundwater and suspected asbestos-containing materials, we make the following conclusions about the Harrington's in Vermont facilities:

6.1 SHELBURNE

Analysis of contents of an abandoned 3,000-gallon underground storage tank located to the north of the Woodbury's of Shelburne shop indicates that only non-gasoline petroleum constituents have been stored in this tank. The tank is free of detectable chlorinated solvents. In addition, samples of groundwater from wells adjacent to the abandoned and active 3,000-gallon USTs suggest no leakage from either tank. The abandoned tank has been out of service for more than one year and, consistent with UST Regulations, should be removed from the ground and properly disposed. The UST Section of the ANR must be notified 15 days in advance of removal of this tank, and a site assessment is required during tank removal to determine whether contaminated soils or groundwater exist in the near vicinity of the tank (WH&N can provide these services).

Three monitoring wells were installed to the south of the Harrington's Shelburne building, between this building and Ray's Citgo gasoline station. The two wells closest to Ray's Citgo revealed detectable levels of methyl tert butyl ether (MTBE), a gasoline additive. The relative concentrations of MTBE in these wells imply that the chemical contaminant originated from the Ray's Citgo service station. Documented losses of fuel from this gasoline station are noted, including losses from a line leak in 1988 and losses from either an overfill or pipe disconnection during filling of the tank in the mid-1980s. Personnel from the Petroleum Sites Management Section of the Agency of

²Well MW-RH-1 was hand-installed, since a drill rig could not access the side of the tank. Consequently, this well did not reach the water table. Screening of soils from the well with a PID revealed no detectable petroleum contamination.

Natural Resources have been notified of this recent discovery and have been provided a copy of this report for their files, as requested by Mr. Peter Klinkenberg, President of Harrington's in Vermont. Vermont Health Advisory level for MTBE is 40 parts per billion (memo from Division of Environmental Health, 4-12-91). This level has been exceeded in MW-SH-2 on the Harrington's site. Other portions of the site not sampled may have MTBE which exceeds these levels. In addition, unless the original source of contamination has been eradicated (for which there is no recorded documentation), the levels of contamination are likely to rise on the Harrington's property over time.

- Volatile organic compounds being released to the air from a drying booth at the Woodbury's of Shelburne facility may be exceeding Air Pollution Control Division acceptable levels. A determination is being sought from the Air Pollution Control Division, and the status of this release will be forwarded as soon as it is available.

6.2 RICHMOND

- An extensive facilities inspection was conducted of the Richmond Harrington's processing plant. Elevated PID levels were noted in many floor drains at the facility. However, a strong cleaning solution used at the plant (Texstrip 60) contains propylene glycol, and is likely responsible for the elevated PID levels. An analysis of the boiler water blowdown is recommended, since an elevated PID level from this location cannot be explained by the use of Texstrip 60. All floor drains are connected to the municipal sewage treatment plant for the Village of Richmond. Release of this compound to the municipal sewage treatment plant may require a permit from the Permits and Compliance Division of the Agency of Natural Resources, depending on frequency of use and volumes used. Product use information and MSDS sheets should be forwarded to the Direct Discharge Section of the Permits and Compliance Division, The Annex, 103 South Main Street, Waterbury, Vermont 05676.
- An audit of the facility was performed for asbestos-containing materials (ACM). Suspicious materials were sampled and analyzed with polarized light microscopy techniques. Of nine samples collected, only one sample of an approximately two-foot by three-foot sheet of fibrous board attached to the inside of the small boiler room in the bakery area was found positive for asbestos (80 percent chrysotile).

Two 550-gallon underground storage tanks are used to store No. 2 fuel oil at the facility. Analysis of soils adjacent to one tank, obtained from a hand-installed well, and groundwater in the second tank, obtained from a hollow stem auger rig installed well, showed no evidence of release of detectable petroleum contaminants from either tank.

7.0 RECOMMENDATIONS

- We recommend that all single-walled tanks be abandoned and removed from both sites. Conversion to propane, or installation of double-walled tanks should be entertained. If single-walled tanks use is continued, we recommend that the monitoring wells installed adjacent to underground storage tanks at both facilities be monitored, at a minimum on a quarterly basis with a clear plastic bailer to determine whether floating free product has been released from these tanks. (The abandoned fuel oil tank adjacent to the Woodbury's of Shelburne facility must be removed in accordance with the Underground Storage Tank Regulations.)
- We recommend removal of the asbestos-containing fiberboard identified in the boiler room in the bakery. This removal must be accomplished in a controlled manner by licensed ACM abatement contractors.
- The owner may want to petition the Agency of Natural Resources PSMS to install additional wells on the Shelburne property to assess the scope of contamination at Ray's Citgo.

See file #~~91-1114~~ (~~Harrington's~~ Richmond) for site assessment report

Appendices

91-1116 Ray's Citgo